

## **Advantages of the cooperative business structure for willow bioenergy producers in New York**

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A willow grower's cooperative can address the many challenges of bringing a new crop to an energy market. To bring the crop and the market together, several things need to happen. Mechanisms need to be put into place to maintain adequate production of willow biomass. Mutually satisfying fuel supply or other contracts need to be developed. Quality control and processing for on time delivery needs to be assured. This paper will explain why a cooperative is a viable business structure for willow biomass producers, describe the experiences and innovative solutions employed by other energy crop producer groups and explore resources available for starting new agricultural cooperatives.

The cooperative business structure provides an opportunity to distribute dividends to all producers while delivering biomass supplies to power generation companies at a price they are willing to pay. This can be accomplished by a cooperative through reductions in production costs and the costs of other services required for marketing and delivering biomass, and by increasing the value of the product.

A simple definition of a cooperative is "a user-owned and democratically controlled business in which benefits are received in proportion to use." [1] The users are the owners. Farmers purchase shares in the cooperative to become member-owners. These shares are purchased according to how much an individual plans to use the cooperative, and give the member-owner the right to sell tons of product to the cooperative. For example, a farmer who plans to deliver 300 tons of willow each year would purchase 300 shares. The cooperative is democratically controlled by voting; one-member, one-vote, regardless of numbers of shares owned. If weighted voting is practiced, federal and state laws restrict returns on investments in order to protect the democratic nature of the cooperative business structure. Benefits are distributed to member-owners according to use. The number of shares a member owns determines the proportion of the patronage refunds they receive at the end of the year. The dollar value of the patronage refund depends on how much the cooperatives revenues exceeded expenses that year. Cooperatives are formed to provide goods or services to members. Agricultural cooperatives can be either marketing, purchasing or service cooperatives. Often a cooperative will fulfill several of these needs. [1]

Bioenergy crops are not new per se, but the U.S. market for them is just being developed. Several groups of energy crop producers have formed or are on the verge of starting new cooperatives that will address production of agricultural crops and bring them to an entirely new market: electric power generation. The experiences of three bioenergy groups will be explored. Prairie Lands Bio-Products, Inc. (PL), is a switchgrass bioenergy group. [2] They temporarily incorporated as a 501-c-5 non-profit while they initiated the bioenergy enterprise and came to a final decision about whether to form a cooperative or a limited liability corporation. They also developed a tolling agreement with Alliant Energy which essentially allows PL to "rent" 5% of the boiler to create a value-added product: kilowatt hours. [3] Minnesota Valley Alfalfa Producers (MnVAP) was incorporated as a cooperative in 1995. The member-owners marketed alfalfa leaf as pellets for animal feed and alfalfa stems were to be gasified at a power plant in Granite Falls, MN. [2] The power plant conversion did not occur but the cooperative continued to market alfalfa as feed. This situation exemplifies the difficulty of developing new energy markets for agricultural products and the importance of having multiple markets for the feedstock being grown by member-owners. The Minnesota Agro-Forestry Cooperative (MAFC) incorporated as a cooperative in 1997. They are growing poplar to address a shortage of mature native aspen which the pulp and paper

industry has depended on for feedstock. MAFC will market poplar to the pulp and paper industry and explore opportunities to market poplar for electric power production as well. [2]

A willow growers cooperative could be structured to address the special requirements for willow production and to reliably deliver a new fuel source to the energy market. The paper will explore in detail how a cooperative could own machinery and provide the use of this machinery and/or custom planting, herbicide or harvesting services to owner-members at cost. Special varieties of willow cuttings could be purchased in bulk or grown in cooperative run nurseries. Coordination of harvesting, processing, transportation and delivery would improve the quality of the product and the reliability of delivery to market. A willow cooperative could explore some of the same ideas used by other energy crop groups such as tolling agreements with power plants and temporary incorporation as a 501-c-5. Coordination of efforts or marketing of renewable energy to a rural electric cooperative could also be explored.

Several of the energy crop groups discussed in this paper have applied to be pilot projects to harvest biomass for energy from Conservation Reserve Program (CRP) lands. Selection as one of these pilot projects will be beneficial to energy crops groups. Cost share on crop establishment and annual CRP payments will reduce production costs, reduce risk to growers, and regulate cash flow particularly for long rotation crops.

Provided in this paper are lists and discussions of the many resources available through USDA and other sources for starting a new agricultural cooperative. The role of a Resource Conservation and Development office in support of cooperative formation is discussed. Funding opportunities for cooperative start-ups are described. Other resources such as economic models, feasibility studies and business plans are explored. Finally a potential structure for a willow grower's cooperative is imagined and described.

The thoughts of current willow producers and updates on various activities have lead to several conclusions. A full and detailed feasibility study needs to be conducted to closely examine the economic costs and benefits of operating a willow bioenergy enterprise as a cooperative. With this information available, willow growers can compare the cooperative option against other possible business structures and then move forward to full commercialization of willow biomass for energy.

## **References**

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